

Notice of Allowability	Application No.	Applicant(s)	
	10/786,182	MILLER ET AL.	
	Examiner	Art Unit	
	Asok K. Sarkar	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 2/28/2006.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

1. Applicant's explanation of the instant invention in pointing the difference with the cited prior art was found to be persuasive.

EXAMINER'S AMENDMENT

2. In view of allowable subject matters, the Applicant's representative was contacted for canceling the nonelected claims.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert W. Griffith on March 10, 2006.

The application has been amended as follows:

Claims 22 and 23 have been cancelled.

Allowable Subject Matter

4. Claims 1 – 21 are now allowed.
5. The following is an examiner's statement of reasons for allowance:

Claims 1 – 17 recite, inter alia, a method for performing a wire – bonding operation in an integrated circuit, utilizing a bonding tool. A wire is ball bonded to a first bond site in the integrated circuit. At least one bend is formed in the wire. The

wire is terminated at the second bond site, thereby creating a bonded wire having a profile. The ball bonding, forming and terminating steps are repeated for at least one additional wire in the integrated circuit such that the profiles of at least two bonded wires in the integrated circuit are substantially perpendicular to one another at a crossing point thereof. The art of record does not disclose or anticipate the above limitation in combination with other claim elements nor would it be obvious to modify the art of record so as to form a device including the above limitation.

Claims 18 – 21 recite, inter alia, an integrated circuit comprising an integrated circuit package, a plurality of circuit elements disposed within the integrated circuit package, a plurality of bonded wires, wherein each of at least a subset of the bonded wires is ball bonded at a first bond site and terminated at a second bond site to create a corresponding profile, and wherein the profiles of at least two bonded wires are substantially perpendicular to one another at a crossing point. The art of record does not disclose or anticipate the above limitation in combination with other claim elements nor would it be obvious to modify the art of record so as to form a device including the above limitation.

Conclusion

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

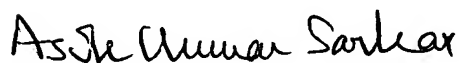
Art Unit: 2891

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Secker, US 6,538,336 and Masumoto, US 2003/0205725 teach semiconductor devices with the profiles for the wire bonded wires.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 571 272 1970. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on 571 272 1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Asok K. Sarkar
March 10, 2006

Primary Examiner